



Danthonia



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NEWSLETTER OF THE AUSTRALIAN NETWORK FOR PLANT CONSERVATION

NSW Threatened Species Legislation Update

Kim Brebach

NSW Coordinator National Threatened Species Network

Conservation groups are extremely concerned that the Government is about to break a key environment promise contained in its Nature Conservation Policy, relating to endangered species legislation;

'Labor will introduce comprehensive Endangered Species legislation following the expiry of the Endangered Fauna (Interim Protection) Act in December 1995. The failure to replace this legislation once it expires will jeopardise logging operations around the state and will compromise the protection of endangered species.'*

The new legislation will co-ordinate Species Protection and Recovery Plans in key rare and endangered species and maintain the current endangered species licensing arrangements.'

There is a clear intent to have full legislation passed this year. Yet the Minister for the Environment has signalled her intention that no Bill be presented until at least March next year, which means a 9 month wait at best for it to be passed.

The main justification coming from the Minister is the need for

*** Note: The Legislation expires in October**

consultation on the proposed legislation. There are problems with any proposed lengthy consultation plans, born of 7 years experience of delays under the previous government:

1. There has already been a year long consultation process through the previous Parliament's *Legislation Committee on the Endangered and Other Threatened Species Conservation Bill*, which looked at a whole range of issues relating to the then Government's Bill, the Independent member for Manly, Dr Peter Macdonald's Threatened Species Conservation Bill and proposed Labor amendments of the day. All relevant community and industry sectors participated.

2. Delays to the introduction of the Government's threatened species legislation could result in pre-emptive clearing of endangered flora, utilising the minimum 2 hectare exemption for vegetation clearance controls in SEPP 46.

The groups don't object to a short, say two week consultation process in October, but it is important for the Government to demonstrate its faith with ➔ page 3

EDITORIAL

You may have noticed that *Danthonia* has grown. There has been an increase in the number of regional groups and therefore more reports. The subjects these reports cover are varied and we hope you find the diversity of the reports makes interesting reading.

Further to our page one article, *NSW Threatened Species Legislation Update*, the present legislation was brought before parliament, Thursday 21/9/95 and was extended to the end of the year. This is to allow time for the new legislation to be prepared and presented before parliament.

As this copy of *Danthonia* goes to print the second biannual meeting of ANPC will occur in Perth along with the 4th International Botanic Gardens Conservation Congress. Our next copy of *Danthonia* will bring news of the biannual meeting and the decisions made by members present. Also we will have many articles to report from the congress.

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the environment movement by introducing the Bill for debate this year.

With regards to licensing for threatened plants, conservation groups have already written to Hon Pam Allan and made a significant compromise proposal involving phasing in licensing over the different categories so that only around 90 Presumed Extinct and Endangered plant species, all with extremely limited distribution, would be potentially subject to immediate licensing processes. Species in other categories would be subject to licensing 1 to 3 years after the Act's passage - significantly easing the administrative load on the NPWS. (However, stop work orders would be available immediately for use in critical situations).

The majority of Dr Macdonald's *Threatened Species Conservation Bill* dealing with Recovery Plans, Critical Habitat protection and Action Plans for Threatening Processes are apparently palatable to both the Government and the NPWS. These should come on-stream as soon as possible and not be delayed for up to nine months in the case of delaying the Bill until the first 1996 session.

The relevant conservation groups have consistently demonstrated our will to assist the Government in the drafting of it's Bill and remain willing to finalise negotiations in the coming weeks.

We believe, given the Government's 1995 election promises, the similar 1988 election promises, and our decade long campaign to have NSW's native flora and fauna finally given the protection

they deserve, that threatened species legislation should be given a higher priority in the governments legislative agenda this coming session.

A decision will have to be reached very soon as the Endangered Fauna (Interim Protection) Act expires in October and must be extended in the September session of Parliament.

\$3M Remnant Vegetation Program

*Reprinted from Intersect
the Newsletter of Land &
Water Resources Research
& Development Corporation
(LWRRDC)*

LWRRDC and the Australian Nature Conservation Agency (ANCA) have developed a new \$3 million national R&D program to better understand the processes and requirements to rehabilitate, manage and conserve remnant vegetation.

The new program, currently underway until 1998-99, supports a combination of ecological and socio-economic research and development. Nine ecological projects on remnant vegetation will receive almost \$2 million in funding support over the course of the projects.

Guidelines for the Maintenance and Improvement of Natural Bush in Tasmania by Professor Jamie Kirkpatrick, University of Tasmania, is tailoring the 1991 Management Hand-

book for Tasmanian Native Bush to produce information sheets for landholders and improved management procedures for agencies working to protect remnant vegetation.

Extinction Processes and Fauna Conservation in Remnant Box-Iron Woodlands by Dr. Andrew Bennett, Department of Conservation and Natural Resources, Victoria, aims to develop vegetation management methods to reverse extinction processes in the historic gold mining regions of central Victoria.

Native Plant Regeneration Processes in Remnant Woodland by Dr. Peter Clarke, University of New England, aims to predict the effects of a range of bush regeneration methods on land management in the NSW northern tableland woodlands.

Maximisation of Bird Biodiversity in Yellow Box Woodland remnants by Dr. Chris Tide-mann and Kenneth Er, Australian National University, has completed R&D research to maximise the management of woodlands for species diversity.

Practical Solutions for the Rehabilitation of Degraded Remnant Woodland by Dr. Richard Hobbs, CSIRO Wildlife and Ecology, aims to develop practical methods for rehabilitating remnant vegetation based on an understanding of the processes leading to degradation.

The Role of Corridors and Retained Vegetation in Biodiversity Conservation by David Linden-mayer, Australian National University, aims to develop methods to conserve biodiversity in fragmented landscapes.

Ecosystem Resilience and the Restoration of Damaged Plant Communities by Tein McDonald

New Endemic Pea for Kangaroo Island

by Beverley Overton,
Kangaroo Island

The tentative name *Pultenaea insularis* was given by J.Z. (Joe) Weber, April 1993, Botanist, Adelaide Botanic Gardens and State Herbarium (AD) currently specialising in South Australian *Pultenaea*.

The specific name was confirmed in May 1995, in the Journal of Adelaide Botanic Gardens.

The species is considered to be a new Kangaroo Island endemic *Pultenaea*, confined to a very small portion of a small Conservation Park.

Habit

Plants grow between 25 to 125cm across, with stems from 1 to 50cm long.

They are sub-shrubs and mat-like prostrates, with advantageous rooting at the nodes. When sheltered, stems ascend to 50cm long creating a small spreading shrub.

Stems are grey-greenish becoming brown with age.

Leaves are on a short pedicel, alternate, broadly elliptic, pubescent on both surfaces, recurved at the apex. The upper leaf surface is mid to dark green, underneath is grey-green.

Flowering occurs in late October to December. Each solitary flower grows on a slender to filiform appressed pubescent peduncle. The calyx also is appressed pubescent. The small pea shaped flower has

golden-yellow and red wings with yellow and black-red keel.

Green pubescent seed capsules begin forming in November. These become red-brown externally by march, by which time the seed has been expelled.

Habitat

Generally, the habitat is mid-dense mallee heath to scattered mallee over heath.

Dominant plants include *Xanthorrhoea semiplana ssp. tateana* (Tate's grass tree) *Eucalyptus diversifolia* (soap, coastal or white mallee) *Melaleuca uncinata* (broom bush) *Lasiopetalum baueri*, (slender velvet bush) *Beyeria subtecta* (Kangaroo Island turpentine bush) and *Platysace heterophylla var heterophylla* (slender Platysace).

Location

Pultenaea insularis was discovered in Beyeria Conservation Park, Kangaroo Island, on 10 November 1991, by 4 persons (Beverley and Dean Overton, Rosemary Taplin and Denzel Murfet) during a field trip looking for orchids, *Microtis species* (of the *M. unifolia complex*) for AD.

This particular *Pultenaea* has similarities to *Pultenaea pedunculata* (matted bush-pea) but field observation, AD and personal collections prove that they are separate species.

To maximise searching this particular known *Microtis sp.* area, (B.Overton, 1986 - 1989), the group separated, and in spite of this new discovery, the main objective was not lost and other sites were surveyed. Several viable collections of *Microtis sp.* were later submitted to AD.

Within one half hour, we

were all converging towards each other holding a small piece of a flowering plant, asking the same question 'Do you know which *Pultenaea* this is?'

None of us knew, but we were all aware that we had not seen this particular *Pultenaea sp* before.

Official Recording

At that time (and in subsequent weeks) fresh collections as well as pressed and dried specimens were submitted to AD for determination and official recording.

Propagation

Tip cuttings, rooted pieces and seed were donated to Black Hill nursery for propagation of this newly discovered species.

Additional propagation material was donated to Ida Jackson, some was retained by B. Overton.

All recipients were successful in propagating some of the green semi-hardened tip cuttings and rooted pieces.

B. Overton also used a small quantity of local soil (from nearby *P. insularis*) to maximise success, but once the growing plants were transplanted into Brownlow Estate soil, they slowly went backwards until they died.

It is pleasing to report that the Black Hill nursery and Jackson's success continues.

This species would make a delightful and impressive garden and hanging pot plant. So it is hoped that special interest persons (particularly Kangaroo Island based) will consider controlled experiments into propagation for eventual sale, to increase the numbers of this sub-shrub.

Because of its particular soil and nutrient requirements, it is

highly unlikely that this species would become an environmental weed.

Population Size

Only 17 flowering plants were counted on the first day of discovery. This number was increased to 57 before the end of the same month. In the following year, a concentrated survey was conducted and it was conservatively estimated that 600 plants grow in this isolated population (Overton and Overton, October 1992).

The area is visited frequently to monitor the population and to photograph flowering and non-flowering plants.

The population of *P. insularis* extends north to south for 275 metres and easterly 300 metres.

Plants are found inland amongst regenerated mallee heath, which has been undisturbed by man since April 1986, as well as growing on, and adjacent to, a semi-cleared access tract.

The soil type is complex, comprising sandy-clay with some sand-stone intrusion to sandy-loamy-clay with minimal surface laterite, locally called "crab hole" country.

An interesting aspect, is that during a previous survey, (Overton, October 1989), none of these *Pultenaea* were discovered, because the population falls between the chosen transect survey lines.

(That survey involved compass bearing walks, across the width of the Park and back again. These four transects were 500m apart, each eastern return survey line was 20m distant from the western exit).

Conservation Status

I consider that *Pultenaea insularis* should be given the

conservation status rating of VULNERABLE, because of its minute population, despite the entire known population being conserved in Beyeria Conservation Park.

Reference:

Overton Beverly, 1995, A new edemic plant from Kangaroo Island, The Networker, vol2, 1:2

Overton Beverley, 1995, A new edemic plant from Kangaroo Island, S.G.A.P. Journal, vol 12, 11:403-405

Web,JZ, 1995 A new South Australian species of *Pultenaea* (Fabaceae, Mirbeliaceae), J. Adelaide Bot. Gard., 16:32 - 26

\$3M Remnant Vegetation Program cont. from page3

and Dr. Jan Conroy, University of Western Sydney, aims to develop guidelines for the bushland restoration industry by studying ecosystem resilience and plant community restoration.

Bushland Restoration Using Smoke Stimulated Germination Technology by Dr. Kingsley Dixon, Kings Park and Botanic Garden - Perth, is studying this technique as an alternative to using fire to stimulate germination of bushland areas.

Further Development of a Socio-Ecology Extension Program as an Australian Model by Dr. David Goldney, Charles Sturt University, is putting ecological knowledge into an easy-to-apply kit form to encourage landholders to integrate remnant bushland conservation into agricultural practices.

LWRRDC and ANCA intend to fund additional socio-economic R&D on remnant vegetation after considering the R&D priorities discussed at a workshop in Melbourne recently.

For further information, contact Phil Price at LWRRDC on (06)2573379

Conferences

The National Conference on Approaches to Bioregional Planning

A Framework for Biodiversity Conservation and Ecological Sustainability

30 October to 1 November 1995

Royal Exhibition Building
Melbourne

For further information contact the Convention Organisers:

Australian Convention and Travel Service Pty LTD (ACTS)

GPO Box 2200, Canberra
ACT 2601

Ph (06) 2573299

First Announcement 13th Conference Fire and Forest Meteorology

International Perspective
on Landscape Fires

27-31 October 1996

The Cumberland Resort
Lorne, Australia

For more information write to
IAWF, PO Box 328, Fairfield,
Washington, USA 99012

Members Activities

Conservation Genetics in the Royal Botanic Gardens, Melbourne

Elizabeth James

The Royal Botanic Garden in Victoria is expanding its research area beyond the discovery, naming and classification of plants with major programs in micropropagation, floral development, evolutionary relationships and most recently, conservation genetics.

Elizabeth James has been appointed to the newly created position of Conservation Geneticist at the Royal Botanic Gardens, Melbourne. She is cementing the involvement of RBG in the Centre for Conservation Genetics, a group of co-operating research institutions focused on the School of Genetics and Human Variation at La Trobe University, Bundoora. Although based at the RBG Melbourne, Liz will use laboratories at La Trobe University for her genetic analyses.

The continual fragmentation of plant populations, mainly due to changes in land use, has resulted in altered population dynamics for many species. While a few species are able to exploit new niches, the effect on many is a reduction in the viability. This can

be seen, for example, as reduced seed set or seedling establishment, but the effects are not always obvious.

Over the next few years, Liz will focus on genetic variation in fragmented plant populations and the impact of this variation on population viability. Reduced levels of genetic variation can restrict the ability to tolerate changes in the environment. The reduction in suitable habitat for many species restricts genetic exchange between individuals within a species because they become part of smaller, genetically isolated groups, rather than fewer, larger and more continuous populations. Habitat fragmentation can also affect pollinators so that there may be fewer to effect pollen exchange.

Areas containing endangered plants must often be managed for a variety of uses and there are various options for their management. The success of conservation measures depends on those decisions being based on a sound knowledge of the target species. We often know more about the reproductive biology and breeding systems of introduced plants so it is heartening that the Royal Botanic Gardens has chosen to direct some research funds into studies which will increase information on Australian plants.

The research work undertaken at the RBG will use molecular techniques to complement ecological and taxonomic studies. It will

provide information on breeding systems, population structures and reproductive biology of species, where appropriate, so that management decisions are made in response to particular threats to the species concerned.

The success of conservation measures is also reliant on increasing people's awareness of the value of biological diversity. Communication of research results and management strategies to local communities and to people using land which is habitat to plants under threat is seen as an important part of the RBG conservation genetics research.

If you would like to talk to Liz about the research program, she can be contacted at the Royal Botanic Gardens, Birdwood Avenue, South Yarra, Vic.3141, e-mail: geneaj@lure.latrobe.edu.au phone: (03) 9252-2378 or fax (03) 9252-2350.



Remnant Vegetation Conservation in the Shire of Gordon

by Paul Foreman
Department of Conservation
and Natural Resources

In 1993 the rural Shire of Gordon in north Central Victoria teamed up with the Mid Loddon Tree Group and the Department of Conservation and Natural Resources to do something about preserving the native flora and fauna of their district.

Whilst the Gordon Shire, like many other districts in the state, has been greatly changed by agriculture since settlement, many remnants of the original bush still persist. In fact the richness of 'remnant vegetation' in this the Mid Loddon district is striking and something many locals realise needs to be preserved. Remnants of grasslands, mallee shrublands, native pine and buloke woodlands, heathlands, lignum shrubland, red gum and black box forests and various freshwater wetlands can be found in good condition within the area.

The group made a joint application for "Save the Bush" funds through the National Land Care Program to conduct a botanical survey throughout the municipality

to determine which remnants were most important to preserve. A thorough survey has never been attempted in the area before and thus the groups were very excited at the potential outcome. The bid was submitted in late March 1993 and notification of success given some five months later at the beginning of September.

While waiting for funding to be approved the group had a considerable amount of work to be done to prepare for the survey work.

A register of all remnant vegetation was compiled using a combination of aerial photography interpretation and local knowledge of the district. Although some survey work has been conducted in the past (e.g. Terrick Terrick State Park) this is project intended to complement previous work and focus on the majority of remnants never surveyed.

Because of the lateness of the funding, it was essential to get the field work under way

as soon as possible. With the recommendation of several prominent Victorian botanists, Paul Foreman organised the appointment of Melbourne based John Westaway, a field botanist with considerable experience in east and south of the state. John had begun field work by the last week of September and had finished by mid December.

Each identified remnant site was visited systematically and an initial assessment made as to whether or not the site (particular attention was paid to the ground storey) was sufficiently intact to justify further assessment of its values. If the site was dominated by exotic species because of overgrazing, cultivation or salinisation, it was not considered significant for the purpose of the survey. This was not to say such remnants have no value (as they can be important for wildlife habitat, seed collection, soil stability, water use etc.) but with respect to the maintenance of biological diversity



Shire of Gordon Victoria

they are likely to be of low importance and priority.

If, by contrast, a site supported a number of different indigenous species and the exotics were relatively inconspicuous, further assessment was undertaken to determine:

a) the identity of all vascular plants present (particularly significant native species);

b) the significance ranking based on the general state of the vegetation;

c) the conservation management guidelines required to protect the site;

At the end of the field work, John Westaway immediately began work on compilation of the information into a significant site register complete with site specific conservation management guidelines. He also produced a complete native plant list for the shire, notes on the many rare or threatened species identified and notes on the general state and composition of remnant vegetation within all of 10 broad land systems occurring within the shire.

The field work resulted in an enormous increase of our knowledge of the distribution, habitat preference and conservation status throughout the study area of many native plant species. In all, almost 500 species have so far been recorded from within the shire about 10% of which are currently listed as rare or threatened in Victoria.

Some of these plants include; swamp buttercup - *Ranunculus undosus*

long Eryngium or blue devil - *Eryngium plantagineum*

Emu foot - *Psoralea tenax*

annual buttons - *Leptorhynchus scabrus*

downy Swainson pea - *Swainsona swainsonioides*

hairy tails - *Ptilotus erbescentis*

Winged New Holland daisy - *Vittadinia pterochaeta*

Cane spear-grass - *Stipa breviglumis*

There are many different things to be done within the shire to follow on from this as-



Blue Devil or Long Eryngium, *Eryngium plantagineum*

essment project, by far the highest priorities are;

a) continued community education and

b) implementation of site specific conservation management guidelines.

Already a second application to Save The Bush is being compiled to purchase roadside conservation signs and fencing material to protect particularly special areas.

Grant money is also being sought to fund quality educational publications ranging from colourful brochures through to a comprehensive conservation management handbook specifically for the Mid Loddon district. Such a handbook would contain a summary of the district's biological diversity and significant sites, as well as practical guidelines for the management of degraded remnant vegetation and even techniques for revegetation.

This project was originally initiated as a pilot study to demonstrate to communities throughout northern Victoria why such work needs to be undertaken within each district, how it can be done and what benefits can be readily gained. For further information on this project or if you are interested in starting something similar in your district contact Paul Foreman in Bendigo on (054) 446666.

This is a condensed version of Paul Foreman's report. The full report is available from ANPC National Office or contact Paul Foreman

Note:

Further to the second application to Save the Bush for funding -- approx. 15 signs have been placed in position.

Further to the funds sought for educational publications - an environment management hand book for Mid Loddon District is being published.

Species Profile

Epacris hamiltonii

Malden & Betche

Endangered (ROTAP
code 2ECi)

by

Margaret Turton

NSW National Parks and
Wildlife Services

Epacris hamiltonii is a member of the family Epacridaceae that appears to require very specific habitat conditions i.e. one gully in Blackheath in the Blue Mountains. It is code 2Ci (Briggs and Leigh, 1988) (2 = geographic range < 100km, E = endangered, C = reserved, i = less than 1000 plants within the reserve area). *E. hamiltonii* is a spreading multi-stemmed straggly shrub that grows up to a metre high. Branches are brittle with pointed leaves covered with silky hairs on both surfaces, giving a furry appearance. Flower consist of a white tube, and occur in spring from October to December. The fruit is a capsule, approximately 2mm long, developing after flowering. Seed is dispersed from February onwards. The habitat conditions for *E. hamiltonii* are in the form of wet cliff overhangs, with very moist, fibrous, peaty soil. All existing sites are found at altitudes of 900 - 1000 metres.

The entire population of this species is found within a

gully in Blackheath in the Blue Mountains, NSW. The NSW National Parks and Wildlife Service is currently researching this species under funding through the Australian Nature Conservation Agency's Endangered Species Program.

Previously the total number of this species was thought to consist of 50 plants, however recent searches by National Parks and Wildlife Service staff have revealed further populations within the one area. Although the total population is now estimated to be between 600 - 800 plants, it is likely to be an over estimate given the clonal nature of the species.

This species is found adjacent to warm temperate rainforest, in association with king fern (*Todea barbara*), rough tree fern (*Cyathea australis*), coral fern (*Gleichenia rupestris*), dog rose (*Bauera rubioides*), hard water fern (*Blechnum wattsi*) and Fuschia heath (*Epacris*

longiflora).

Potential pollinators of this species that have been identified include feral bees (*Apis mellifera*) and Eastern Spinebills (*Acanthorhynchus tenuirostris*). Several species of mites have been found on the plant at the study site, these include individuals from the families Erythraeidae, Phytoseiidae, and Oribatoidea, all of which are predatory mites which feed on other small insects. Another mite from the family Tydeidae, was also found. This mite is thought to be a fungal detritus feeder. The role of these mites in the life cycle of the plants is unknown at this stage.

Threatening Processes

The area in which this species occurs is a popular bushwalking area and although the population are not directly on the tracks, people straying from the marked tracts could damage some populations. Damage could occur directly from people breaking the fragile, brittle stems, or indirectly by causing erosion on steep slopes. To ameliorate this, the



Epacris hamiltonii drawn by Margaret Turton

NPWS has constructed fences in some areas to prevent walkers straying from the marked paths onto the fragile slopes.

Inappropriate fire regimes are another potential threat. Until very recently nothing was known of the mechanism used by this species to respond to fire. Recent observations indicate that the plants have the ability to reshoot from burnt adult plants and that fire successfully influences seed germination. However, some adult plants were killed by fire and did not reshoot. Further research needs to be undertaken to determine the most appropriate fire free intervals for this species and its habitat. The critical information required for developing appropriate fire regimes is the time it takes for seedlings and resprouting plants to mature and for seedlings to develop a fire resistant rootstock.

Epacris hamiltonii grows in wet sheltered gullies under overhangs, and is dependent upon water seepage through the sandstone cliffs. Due to this dependence any changes to the water regime of the area or pollution in the runoff due to the additions of nutrients to the systems could affect the survival of this species. A pamphlet has been prepared to inform the community of the threat of pollution to *E. hamiltonii* and ways they can act to minimise this threat.



Recent Publications

Bushland Plant Survey, A Guide to Plant Community Survey for the Community, Published by the Perth Branch of the Wildflower Society WA (Inc.) To order contact Wildflower Society of WA, P.O. Box 64, Nedlands 6009. Cost \$10 plus \$2 postage.

The book is divided into two sections:

Part 1 The Survey: A step by step guide to doing a survey of vegetation and flora.

Part 2 Botanical Jargon: A brief introduction

Second edition, Greening What Where Directory, produced by Greening Australia Victoria (GAV) to assist the extensive network of people involved in vegetation restoration in Port Phillip Region.

Significant Vascular Plants of Upper North East New South Wales. A Report by the New South Wales National Parks and Wildlife Service for the Natural Resources Audit Council

NSW National Parks Wildlife Service. Paul Sheringham & John Westaway Aug 1995

More Networks

Community Biodiversity Network

by David Evenden

Australia is one of only twelve mega-diverse countries in the world, which means we have a unique richness and variety of life forms at the genetic, species and ecosystem levels. Whilst all other mega-diverse countries are developing countries, Australia is the only mega-diverse nation with the advantages of being a developed country. Because of our economic, political and social structure, we have a unique potential to protect our mega-diversity. But everyday our wealth of biodiversity is being destroyed as genetic variation decreases, species become extinct and ecosystem complexes are lost. As an example, at a species level we are responsible for two-thirds of the world's total mammal extinctions in the period since 1788. At an ecosystem level our biodiversity continues to suffer from a land clearing rate that is over half that of Brazilian Amazonia.

The Convention on Biological Diversity emerged from the 1992 Rio Earth Summit as the world's response to biodiversity problems. Australia ratified the Convention in June 1993, and a National Strategy for the Conservation of Australia's Biological Diversity has been prepared. The Federal government and all State and Territory governments have signed the Strategy, except for Western Australia.

Despite this setback, the Federal Government has launched its Biodiversity Conservation Program, which is mainly aimed at implementing the National Strategy. This represents a commitment of \$13m over the next four years.

With proper implementation, the National Strategy will ensure an integrated approach to biodiversity conservation. The Strategy sets out 18 priority actions that Australia must implement by the year 2000, and a further 9 actions to implement by 2005. The priority actions are specific, and examples include the requirements to reverse the decline of remnant native vegetation, to rehabilitate at least 10 threatened species, and to avoid or limit any further broad-scale clearance of native vegetation. Many of the priority actions require further research into biodiversity. Conservation groups at all levels must monitor, motivate and participate in the implementation of these priority actions.

Community involvement and awareness is a vital element of the National Strategy, which recognises that biodiversity conservation will only succeed if local communities are participating in conservation projects. Local and regional conservation groups play an important part in providing the motivation and information necessary for community projects to be successful. To get the advice and information they need about biodiversity, local and regional conservation groups can now contact the Community Biodiversity Network.

The Community Biodiversity Network has been set-up as a vital link between com-

munity conservation groups, scientific organisations, the media, local and state government agencies, and the Federal government's Biodiversity Conservation Program. It aims to better implement the National Strategy and heighten community awareness and involvement in biodiversity conservation. Most importantly, the Community Biodiversity Network acts as a two-way conduit for information, advice and ideas. Through the Commonwealth's Biological Diversity Advisory Council, the network will be able to represent the views of the non-government organisation NGO community. In addition to constant liaison with the Biodiversity Unit, this will provide the NGO community with the crucial voice necessary to have its say on the future direction of the National Strategy.

In addition to funding the attendance of key NGO representatives, the Community Biodiversity Network is organising an NGO forum at the forthcoming Bioregional Planning Conference in Melbourne, 30 October to 1 November 1995. The NGO forum will discuss the role of environmental groups in bioregional planning, and the potential for community monitoring of biodiversity conservation initiatives. The concept of bioregional planning is an integral element of the National Strategy, and recognises that protected areas alone are far too small and scattered to maintain biodiversity. An integrated approach is called for, in which protected areas also occur within and amongst modified and developed surroundings. The conference

will demonstrate and examine practical methods for bioregional planning, and workshops will include case studies from a range of bioregions throughout Australia. A presentation on community involvement in bioregional planning will be given by Dr Judy Lambert from Community Solutions, who are currently preparing a four year strategic plan for the future development of the Community Biodiversity Network. The NGO forum will be held on the Monday evening.

Any inquiries regarding the NGO forum, the Conference, or anything related to biodiversity conservation can be made to the Community Biodiversity Network: Ph (02) 9918 3277; Fax (02) 9973 1729; E-mail: bdnet@mail.peg.apc.org

Introducing the Canadian Botanical Conservation Network (CBCN)

A new botanical conservation network has been established in Canada. The Canadian Botanical Conservation Network (CBCN) is a project of Royal Botanical Gardens (Hamilton, Canada), established in March of 1995 with significant funding from partners Environment Canada (the Canadian Federal Environment Ministry) and McMaster University, Hamilton. Since that time, CBCN has also received generous support from corporate sponsors

Merck Frosst Canada Inc. and Glaxo Canada Inc.

Efforts to bring a national focus to the work of botanical gardens in Canada have had a long history, and the need for a national botanical garden has been discussed since 1926. The concept of a single national garden was replaced in the early 1970s by the idea of a network of botanical gardens across the country, a natural outgrowth of the diverse regions making up Canada. A network could make efficient use of existing resources and facilities rather than investing heavily in the creation of a single large national facility.

During the development of the Canadian Biodiversity Strategy, Canada's response to the U.N. Convention on Biological Diversity, it was recognized that 'botanical gardens in particular should be encouraged to work together in a national ex-situ conservation program focused on native Canadian rare and endangered plants.'

The Canadian Botanical Conservation Network (CBCN) has been developed because of the joint interest of botanical gardens, government agencies and other partners in aiding institutions maintaining living collections of plants in Canada to realize their potential to contribute to the conservation of biological diversity.

The mission of the Canadian Botanical Conservation Network is to aid the botanical gardens, arboreta, and other institutions maintaining living collections of plants in Canada to realize their potential to contribute to the conservation of biological diversity.

In order to realize this mis-

sion, the objectives of CBCN are:

To promote the positive effects of botanical gardens, arboreta and other organizations or individuals maintaining native and exotic plants in cultivation on the conservation of endangered or rare plants, or plants that constitute an important cultural, historic or economic genetic resource;

To increase the participation of botanical institutions in efforts to rehabilitate habitats and exchange information to augment public understanding of the conservation of genetic resources, initiatives which contribute to the implementation of Canada's Biodiversity Strategy, and;

To encourage development of information systems to catalogue and utilize nationally important plant genetic resources in cultivation, provide information and advice on the availability and appropriateness of plant stock for habitat rehabilitation, and exchange information with similar international organizations, especially on rare exotic species.

The purpose of CBCN is to build partnerships that will permit plant conservation programs to succeed, even in the present tough economic times. After all, if we lose rare and precious living resources today we will have a harder time building for a prosperous future tomorrow. The following organizations have indicated interest in joining the Network or are already committed partners(*):

*Agriculture Canada's Morden
Research Centre, Manitoba
Australian Network for Plant
Conservation*

*Botanic Gardens Conservation
International, U.K.*

*Brickman's Botanical Gardens,
Ontario*

*Calgary Zoological Society,
Alberta*

*Canadian Centre for Biodiversity,
Ontario*

*David Douglas Botanical Garden
Society, British Columbia*

*Devonian Botanic Garden,
Alberta*

Environment Canada, Ontario*

Glaxo Canada Inc., Ontario*

McMaster University, Ontario*

Merck Frosst Canada Inc.,
Quebec*

*Metropolitan Toronto Zoo,
Ontario*

*Niagara Parks Commission,
Ontario*

Royal Botanical Gardens,
Ontario*

*U.S. Center for Plant
Conservation, Missouri*

*VanDusen Botanical Garden,
British Columbia*

For more information on CBCN, please contact:

*Dr. David A. Galbraith
Coordinator - Canadian Botanical
Conservation Network
Royal Botanical Gardens
P.O. Box 399
Hamilton, Ontario
Canada L8N 3H8
Tel: (905) 527-1158, ext. 309
Fax: (905) 577-0375
e-mail: D.Galbraith@genie.geis.com*

Understorey Network Restores Biodiversity on Farms

BY CELIA LEVERTON

By spring 1995 the means to recreate whole ecosystems on farms in Tasmania will be in place.

A newly formed group, the Understorey Network, have set themselves the task of promoting an awareness of the plant species that grow beneath the canopy of large trees.

They will do this by a comprehensive database to provide the technical advice to grow the understorey species.

Network member, Biz Nicolson, said the group will encourage farmers and land-care groups to incorporate the understorey species in their revegetation work.

In the past information has been difficult to source.

"Most of the information is in people's heads or is in a very technical form," said Biz.

"The central database will be set up at the Botanic Gardens in Hobart providing information in a form everyone can use and that will be easily accessible."

From humble beginnings the group has now grown to over seventy, including botanists, farmers, landcare groups, councils, Greening Australia and field naturalists.

They are working in the areas of central data collection, public awareness, technical information (trials, database,

practical and written information and mapping), funding and network setup.

"We are aiming to channel the expertise into all districts in the state to grow local species," said Biz.

Biz believes that many more species will be lost if the work is not done now.

The first step will be the distribution of leaflets to raise public awareness.

Progress to date has included applying for funding to employ a co-ordinator and to set up the database.

For more information contact:

*Biz Nicolson
Bonneys Plains
P.O. Box 117
Conara 7211
Tasmania ph(003) 842165*

Literature and the Environment

Garland Publishing of New York is preparing Literature and the Environment, An Encyclopedia, to be published in 1997 under the editorship of Patrick D. Murphy. The encyclopedia will be international and interdisciplinary in scope. It will include entries on specific authors and works, as well as relevant topics from theory, philosophy, science and other areas. It will include bibliographic listings and an index.

Send inquiries, suggestions for topics, and names of potential contributors to Patrick D. Murphy, Department of English, Indiana University of Pennsylvania, Indiana, PA15705-1094.

Ph (412) 357-2263. Fax (412) 357-3056. E-mail pdmurphy@grove.iup.edu

Workshop

NSW Roadside Environmental Committee

Roadside Management

Braidwood Thursday 9 November 1995

The purpose of the workshop is to highlight best practice in management of roadside environment, the role of various agencies and the community in roadside management. The area in focus is the Tallaganda Shire on the Southern Tablelands.

For more information contact Bruce Lean, the REC Executive Officer ph. 02 5692685

Recent Publications

Management of Relict Lowland Grasslands :

Proceedings of a Workshop & Public seminar, September 24 and 25, 1993

Edited by Sarah Sharp & Rainer Rehwinkel. Canberra : ACT Parks & Conservation Service, 1995

Conservation & Research Statement & Proposed Recovery Plan for Eucalyptus conglomerata (Swamp stringybark) Myrtaceae

Wendy E. Drake.

[S.I.] : Qld Dept of Environment & Heritage, 1995

The Biology & Ecology of Threatened Daviesia Species in Western Australia

Thomas Schwarten. West Perth : Kings Park & Botanic Garden, 1995

Diversity, place and the Ethics of Conservation : a discussion paper

Prepared by Joan Domicelj and Duncan Marshall.

Barton, ACT : Australian Heritage Commission, 1994.

People and Nature Conservation : Perspectives on Private Land Use and

Endangered Species

Recovery edited by Andrew Bennett, Gary Backhouse and Tim Clark.

Chipping Norton, NSW : Surrey Beatty, 1995. (Transactions of the Royal Zoological Society of New South Wales)

Evaluating Community Involvement in Revegetation.

[S.I.] : University of Melbourne, 1993

Country in Flames : Proceedings of the 1994 Symposium on Biodiversity and Fire in North Australia,

edited by Deborah Bird Rose. Canberra : Department of the Environment, Sport and Territories, 1995.

(Biodiversity series, paper; no. 3)

Regional Groups

Sub Tropical Region

Report on the meeting at Brunswick Valley Heritage Park, 22-7-95
by Jan Tilden

(19 people attended)

Introduction by Russ Maslen:

Russ Maslen explained the concept of Brunswick Valley Heritage Park and gave some of the history of the project. The aim is to include at least one species of all plants indigenous to the Tweed, Brunswick and Richmond River Catchments. There is no attempt to recreate a natural bushland setting or to have a botanic garden. Emphasis is on making the park user friendly. All specimens are tagged and layout provides close access to plants so they can be properly examined. Interested people in the area are encouraged to collect and propagate the seed.

The work is done by a group of volunteers. ("There is no such thing as free money"). The project has been going for 15 years and its progress is recorded in a photo album.

Among the specimens in the park are 8 nationally endangered plants.

John Nagle (Project Officer from Greening Australia, North Coast Region, from border to Taree)



John talked about the restoration of plant communities, in particular rainforest and wet sclerophyll forest. Much of his work involves remnants of the "Big Scrub" - rainforest remnants on red kraznozern soils. There is less than 1% of big scrub left. Some is in protected areas such as Nature Reserves, Flora Reserves and local government parks but half of the remnants are still in private ownership, with big variations in the standard of management.

Management actions required are:

- fencing
- restoring the core
- restoring the edges
- buffer planting around the edges (extension).

He has produced a set of guidelines for Big Scrub rehabilitation. The rest of the talk was based on these guidelines.

John also talked about the Landcare Support work of Greening Australia. There are over 800 Landcare groups in NSW.

Lance Tarvey (NSW National Parks and Wildlife Service)

Lance talked about Conservation Agreements - voluntary agreements between Landholders and the Minister for the Environment. The aims of these agreements is to encourage off-reserve conservation. They are registered on titles and legally binding. The relevant legislation has been around since the late 80s but the government is only now beginning to promote the idea. So far only one Conservation Agreement has been fully processed. They are not the same as 'Wildlife Refuges' which are extinguished when

the land changes hands.

To a certain extent the NPWS sees these agreements as an alternative to acquisition however they acknowledge the importance of acquisition for areas of high conservation value. Conservation Agreements are also seen by the Service as a good way of encouraging land holders to take care of rare and threatened plants on their land.

The agreements can also be used to protect sites of aboriginal cultural significance and sites of geological significance.

There are no size criteria. If the land in question is mortgaged, the lending authority must also be party to the agreement.

NPWS pays for the survey of portions of land subject to conservation agreements. Other management actions include:

- stock exclusion and restriction of clearing
- preparation of a management plan
- weed control

Not everyone gets departmental assistance for these things. This depends the conservation value of the site.

Lance said that people are still cautious about getting involved in the agreements, especially when it comes to the crunch of signing the necessary papers.

Items of Business:

Russ Maslen raised the possibility of splitting the subtropical group along the border, given the problems created by the distances involved. In discussion the following points were raised:

- that there were two people from Queensland at the meeting
- that wherever the meeting

is, the tendency will be for most attendees to be local with a few particularly keen types from further afield

- that there was some value in ignoring the border in favour of the biogeographical continuity of the region

- that if the group was to consist of a number of local sub-groups there would be a need for good communications among them to maintain cohesiveness.

It was decided to continue with the existing area, acknowledging that meetings would be mainly attended by interested locals. It was suggested that we try to have at least one big get together a year which would include members from across the region.

South Australian Region

Threatened Plant Action Group

by Rick Davies, TPAG convenor

When one talks about the brink of extinction, one can not get closer to the brink than perennial blown grass (*Agrostis limitanea*). Previously known from only one specimen collected from Riverton railway in 1931, this "feathery" headed grass was considered extinct. Amateur botanist Bob

Bates astonished the botanical world by rediscovering the species near Spalding in the late 1980s, on a pipeline reserve next to a creek. The Threatened Plant Action Group (TPAG) recently made its second visit to the site to continue its war against the weed grass *Phalaris* and to monitor the *Agrostis*. Although it was pleasing to see the *Agrostis* had colonised sites where *Phalaris* had been removed, overall *Agrostis* numbers had decreased. The site will be visited again next year to follow up the weeding and determine whether the decrease was due to drought or is a long-term trend.

Other ongoing projects of the TPAG range from monitoring the nationally vulnerable wattle (*Acacia rhetinocarpa*) in Ferries- McDonald Conservation Park; to weeding sweet pitosporum, olive and bone-seed in Belair National Park; to weeding, fencing and sign-posting a small remnant of Adelaide Plains vegetation at Hope Valley Reservoir. The area in Belair contains the last large population of the nationally vulnerable leaf-hood orchid (*Pterostylis cucullata*) in South Australia, while Hope Valley Reservoir contains the last 14 plants of the nationally endangered small scurf pea (*Psoralea parva*) on the Adelaide Plains. A tour of threatened species in the Finniss-Monarto area to discuss its management was particularly popular with much interest shown by locals.

TPAG is always looking for new active members and the next few months provide several opportunities for interested persons to be come involved in some important new

projects:

8.30 am Saturday 23rd September - Assist the Friends of Upper South Parks to map the nationally endangered Jumping Jack Wattle (*Acacia enterocarpa*) in Aberdour Conservation Park. Contact John Samuel-White on Ph 087521945

10 am Saturday 2nd December - Weeding gorse in Millbrook Reservoir adjacent to the biggest population in the world of the nationally endangered white-spider-orchid (*Caladenia rigida*). Contact Pat or Peter Clark on Ph 082616615.

The next meeting for the TPAG will be held in the Conservation Centre (NCS office) 120 Wakefield St Adelaide, at 5.30 pm on Wednesday 6th September. All welcome.



Sydney Region

Report on formative meeting

Sat. 5 August 1995

Mt Annan Botanic Garden

By Jeanette Mill

The program started with a tour of the Terrace Garden guided by Peter Cuneo. At times Peter couldn't be heard over the enthusiastic networking already taking place! Conversation continued to flow freely as lunch was enjoyed in the sunshine.

The meeting commenced with brief introductions by the 25 or so participants. Don Blaxell, Assistant Director of Living Collections for the Royal Botanic Gardens, welcomed everyone to the Gardens, passing on apologies from the Director, who was unable to attend. An update on ANPC activities was given by Mark Richardson, followed by a background on ANPC regional group activities by Jeanette Mill.

The meeting was then thrown open to discussion. It was agreed that a similar format to the one adopted by most other regional groups would be suitable, with meetings held every two to three months and the location changing to enable members to see projects first hand. The responsibility for organising the meeting would also rotate, with assistance being given by a small committee to the primary organiser if required.

Saturdays would generally be the most appropriate day, but this could vary with the topic or location.

Tracey Armstrong, Records Officer at Mount Annan, volunteered to be Co-ordinator for the region, and will act as a central contact for overseeing organisation of meetings, publicity, reporting back etc. A vote of thanks was expressed by the group to Tracey and the RBG for this generous offer.

A program of meetings spanning well over a year was devised, and is detailed below, along with names of organisers and their contacts. Anyone wishing to assist with any of the meetings can get in touch with Tracey or the meeting organiser. Tracey's contact details are: Tracey Armstrong, Records Officer, Mount Annan Botanic Garden, Mount Annan Drive, Mount Annan, NSW 2567. Ph: 046 46 2477, Fax: 046 46 2465.

October 14 1995

Hunter Region Botanic Gardens Kooragang Island restoration scheme, conservation of *Cynanchum elegans*

Terry Tame Ph: 049 87 1655

Maria Matthes
Ph: 02 895 7768

December 9 1995

Minnamurra/Barren Grounds/RAOU
Tracey Armstrong
Ph: 046 46 2477

February 1996

Taronga Zoo (to be confirmed)

Ian Jackson
Sean Lillis
Ph: 02 978 4780

April 1996

Local Government - weekend seminar? Baulkham Hills Environment Policy
Carlingford Railway Corridor State of the Environment
Reporting re Rare or threatened plants

Local Agenda 21
National Trust
Environmental Lawyer
Australian Local Government Association

Elizabeth Boesel
Ph: 02 872 3122

and a hoard of others hopefully

July/August 1996

Wollongong Botanic Garden
Anders Bofeldt
Ph: 042 27 7468

October 1996

Mt Tomah Botanic Garden
Wild Plant Rescue Service
Blue Mtns Rare and Endangered Species group
eg *Eucalyptus oreades*, *E. pulverulenta*
Annual meeting - planning for next year.

Other topics/venues suggested were the recovery of Royal National Park after the fires; Castlereagh State Forest/National Park; Mt Annan - Wollemi Pine (Cathy Offord), Grevilleas (Peter Olde, Peter Cuneo).

As Local Government was raised as a major topic, it was felt that it may be appropriate to conduct a weekend workshop on Local Government in April 1996.

The meeting concluded with a delicious afternoon tea.



HUNTER REGION BOTANIC GARDENS

Next meeting of Sydney Region Group will be at Hunter Region Botanic Gardens, 14 October 1995.

Agenda:

Hunter Region R&E species - Terry Tame Hunter Region Botanic Gardens

Lake Macquarie City Council management of *Tetratheca juncea* - Robbie Economis, Environmental Planner, LMCC

Kooragang Island restoration scheme and the conservation of *Cynanchum elegans* - Maria Matthes NPWS Endangered Species Unit

Lunch will cost \$7.00 per perso

Western Australia Region

The role of the Amateur in
plant Conservation

report on meeting 1/9/95

By Margaret Pieroni

I used the word "amateur" advisedly, to describe four of the speakers at the WA Region meeting on 1st July. The general perception of the meaning of the word is "someone who dabbles in something without the expertise or training of the professional", that is "amateur" as opposed to "professional". In fact the word also means someone who engages in any art, science or study etc. for the love of it. It comes from the Latin "amator" - a lover. I think that describes most of us!

The S.G.A.P. Dryandra Study Group, of which I am the current leader, joined the A.N.P.C. at the outset. After attending the inaugural seminar in Canberra, I saw it as an excellent way to establish networks of communication between all the various groups and individuals who are working to conserve our precious flora. With a central data base it should be possible for all knowledge and skills to be shared and duplication avoided. Much time and resources can be saved by using the expertise of enthusiastic amateurs helping botanists and other professionals.

The Dryandra Study Group which began in 1974 has about 50 members, most of whom are in Victoria, though WA membership is increasing. We have a seed bank. Small amounts of seed is available

free to members who are trialing dryandras in their gardens. Information is exchanged by means of our twice-yearly newsletters. Surveys of member's dryandra growing are conducted and the results collated. A special survey of species threatened in the wild, being grown by our members, was carried out on joining the A.N.P.C. and the results published.

One of the main aims of the Study Group is a book on Dryandras now that Alex George has completed his revision of the genus. Long before I took over as leader, members of the group in Victoria and South Australia, in particular, have been very successfully growing dryandras and our "living collection" at Cranbourne annexe of the Royal Botanic Gardens in Victoria is a brilliant example of how well most of the taxa are able to be cultivated. Many dryandras were first discovered and collected by Study Group members during visits to W.A.

There are two important ways study groups contribute to the conservation of our rare flora, by introducing desirable species into cultivation when and if they prove to be adaptable and by growing species that are vulnerable in the wild, in order to re-introduce them to their natural habitat if it becomes necessary. This is where members in other parts of Australia come into their own.

Dryandras at Cranbourne grow much more vigorously than in W.A. with minimum attention, in pure sand. Without the natural predators, such as seed-eating insects, good quantities of seed are available.

Several plants of the same species are grouped so problems of some being self-sterile are avoided. Adequate pollinators appear to be present. Dryandras with flowers at, or near, ground level rarely set seed in suburban gardens here in Perth. At Cranbourne and in other eastern states gardens they do, possibly because of the presence of small mammals. I suggest that the establishment of an annexe of the Kings Park "Rare and Endangered" garden, located outside the metropolitan area would be an advantage for a continued supply of seed.

I appeal to the professionals and staff of Government Organisations to work ever more closely with people like the speakers at this meeting who are amateurs in the real and best sense of the word, for the conservation of our flora.

Elizabeth George spoke about some of the valuable things learned while compiling the Verticordia Reference Collection. This took place over about 9 years from 1979 with the help of a large number of voluntary collectors, observers and photographers.

Elizabeth spoke about finding that there were many wonderful people in the country who were willing to help, many of whom have preserved patches of vegetation and special plants, for many years. Together with the late Myra Hamilton she set up a very good network operating between the amateur collectors, the Herbarium, the Department of Agriculture, CALM and National Parks departmental field officers. In many instances they were able to provide a liaison between property owners and manag-

ers and CALM, when rare plants were discovered, e.g. *Verticordia staminosa* var *erecta*. They were able to change some peoples attitudes to the protection of flora.

Elizabeth said, "the reason this networking worked so well was because I kept in touch with all the collectors - wrote to them - visited many of them - sometimes we picked up specimens, sometimes, they were delivered to me - their efforts were acknowledged - they were notified of the results of their collections and we also assisted them in the identification of their plants. It was successful also because the end result was to be something tangible and of benefit to others. Voluntary workers need to know (and are entitled to know) that the assistance they have given is appreciated and was useful - otherwise they are left with the feeling that they have probably wasted a lot of time, effort and sometimes money, for nothing".

We learned a great deal of information from the work done by the collectors. The known distribution of *Verticordia* species was expanded. Information was obtained about habitats and flowering times. Species not seen for many years were relocated e.g. *V. frimbrilipis*, *V. hughanni* and new species were discovered e.g. *V. gracilis*.

There were benefits in many other ways: Propagation material was able to be obtained enabling the formation of the *Verticordia* Growing Group to attempt to bring species into cultivation. Some collectors have continued to collect specimens and make observations of plants and

their habitats. Some have assisted other workers and some have helped with different aspects of conservation and become involved in flora protection. Many more people have an awareness of the plants in their area and the need to protect them.

There were however, other lessons learned from this networking: It was found that there were some feelings of animosity and resentment towards "the establishment" and some workers, because of previous lack of courtesy or appreciation of assistance given. Some people were very reluctant to divulge the locations of plants in case they were rare, because they had previously been treated insensitively or they knew someone who had.

Several property managers with good stands of wildflowers wanted to learn how to crop and maintain them for income, rather than clear them but could find no one willing, or able to help them.

When action is required in such circumstances the networking has to reach the officer who can do something about it, not just the person in charge of the department. "Amateurs" need to know who that person is and where to find them.

Elizabeth told of two examples of communication breakdown illustrated with graphic "before and after" slides of roadside populations of two rare and vulnerable species.

In November 1984 more than 50 plants of *V. frimbrilipis* were located. The CALM field officer and the Rare Flora officer as well as the Shire were notified but by 1994 only 3 or 4 plants were left due to road widening and maintenance.

In 1970 Charles Chapman relocated the plants now named *V. spicata* ssp. *squarrosa*. In 1988 about 9 plants and 2 or 3 hybrids with *V. comosa*, on narrow road verges were present. In 1990 the verge was scraped right to the fence, in some places and only 3 or 4 plants remain.

Elizabeth concluded "Networking with the public can be very successful but there have to be benefits for everyone".

Two of the "*Verticordia* Growing Group" mentioned by Elizabeth, are Norm and Pat Moyle. On their property at Mandurah, south of Perth, among many other W.A. plants they have succeeded admirably in growing them from cuttings and showed some living examples as well as slides of some of the rare *verticordias* they have succeeded in growing. Their work is an extremely valuable contribution to our knowledge of this beautiful genus in cultivation.

If Cranbourne is the place to see an example of a great "living collection" of *dryandras* and the Moyles of *verticordias*, then the next speakers property at Mt Baker (WA) is the one for *banksias*. Kevin Collins not only talked about his collection but also bought a selection of about 30 species in flower - marvellous examples of many *banksias* in glowing jewel-like colours.

Kevin and his wife, Kathy became fascinated by *banksias* while living in Perth. Their knowledge and interest was enhanced by membership of the *Banksia* Study Group and extensive participation in the *Banksia* Atlas project during 1985/86.

A work transfer to Mt. Baker in 1983 resulted in the purchase of their farmlet where they commenced growing banksias. The aim of acquiring every species was realised in 1993. Their collection comprises, at present, 1093 banksia plants- all 75 species and 18 named sub-species/variants. To date 75 of the 93 have flowered and 52 of these have set seed. Except for *Banksia grandis*, already on the property, all plants were grown in their small nursery.

They have also started on the establishment of a complete collection of dryandras and are members of the Dryandra Study Group.

Kevin spoke about the challenge it has been to establish the garden and the need for hygiene precautions, such as a footbath for visitors and restricted vehicle access to minimise *Phytophthora* infection.

The "Banksia Farm" is a remarkable achievement but their contribution to the conservation of our flora doesn't end there. In the hope that all bush picking can be phased out as soon as possible, they are promoting the row cropping of banksias and dryandras in their local area and are setting a fine example of this. School groups in the district have helped their small landholder catchment group, of which Kevin and Kathy were foundation members, in revegetation, with indigenous species, of creek lines.

Their future plans are to continue to promote banksias, to add to their collection of banksias and dryandras and provide plant labels. Due to the increasing demand they have recently opened to the tourist public and visitors are

welcome.

By Alex George

Alex George (formerly a botanist with the Western Australia Herbarium, then a botanical editor with the Australian Biological Resources Study in Canberra, now freelancing in Perth) commented on the contribution of amateurs to his research over many years. People from many walks of life have assisted with collections, information and discussion. The Verticordia Reference Collection was of immense value in these ways, and members of the SGAP Dryandra Study Group have also made significant discoveries that greatly expanded our knowledge. In contrast the revision of *Synaphea* has been more an individual study; although several people have made valuable collections the amateur input has been nowhere near the level with *Verticordia* and *Dryandra*, and it has been difficult to provide positive feedback because decisions on what constitute the species have been a long time coming. Personal contact and feedback are vital to maintaining peoples' interest. Alex has seen people put off by the lack of feedback from professional botanists - collections disappearing into a herbarium and no tangible results appearing. The professionals should be prepared to understand how much amateurs can contribute and make the effort to involve them more. They are very keen to learn, to feel that they are being useful, to get the satisfaction of knowing that they can provide valuable knowledge.

In dealing with the Depart-

ment of Conservation and Land Management, Alex has had just as much frustration as amateurs in the Department's apparent reluctance to accept outside input. On several occasions he has voluntarily submitted information but not only received no acknowledgment but the information appeared to have been ignored. CALM should be prepared to accept the work of informed amateurs. He now receives requests for information (especially in relation to his early collections of rare flora) from a number of people in different sections of CALM, and it is difficult to understand who is doing what and how the sections relate to each other in their work. It would be useful to have an outline of the 'network' dealing with data collection and conservation within the Department.



Victorian Region

Planning Meeting Report
July 29, 1995

by Jeanette Mill

The meeting was attended by fifteen people, including members and interested non-members. After a pleasant BBQ lunch, a two hour meeting was held to plan the activities of the group for the next year.

Phil Moors, Director of the Royal Botanic Gardens, welcomed the group to the gardens, and gave an outline of the RBG's conservation activities, including the recent appointment of a full time Conservation Geneticist, Elizabeth James. (see article page 6) Ongoing support was offered to the regional group.

Those present introduced themselves, giving a brief outline of their interest in plant conservation.

Jeanette Mill of the ANPC National Office gave a summary of the progress of ANPC regional groups around Australia. The meeting was then opened to contributions from those present on future activities for the Victorian region group.

The following timetable of activities was proposed as a result of members volunteering to host meetings. Offers from people wishing to assist with any of the meetings can be directed to the names on the timetable (phone numbers appear beside names).

September 9

Royal Botanic Gardens,

Cranbourne Annex
Lesley Hammersley.
Ph 059 96 3782

November 18 - 19

Warrambeen - Greening Australia, Landcare.

Dale Tonkinson.

Ph 03 9421 0900

February '96 To be confirmed

Healsville Sanctuary - Coranderrk project
Public Education

Bookmark Biosphere Reserve

Barry Cross Ph 03 285 9300

April

Bendigo area.

Paul Foreman 054 44 6676

July

Demistification Day - Victorian College of Agriculture and Horticulture.

Liz James Ph 03 9252 2300 Robyn Watson Ph 03 810 8800

August

Weekend trip to Bookmark Biosphere Reserve.

October

Melbourne Zoo. Barry Cross
Ph 03 285 9300

It was felt that Saturday meetings every three months would suit most people.

The value of reporting back via Danthonia after each meeting was stressed.

Dale Tonkinson, Greening Australia, offered to assist with co-ordination of meetings, and act as a central con-



tact/resource. Barry Cross and John Arnott from the Zoological Parks Board of Victoria, Melbourne Zoo, have also offered to provide support to the regional group.

The Indigenous Flora and Fauna Association will assist with publicising of meetings in their newsletter Indigenotes.

Brian Quinn informed the group that he has a property at Newham near Hanging Rock that he would be interested in growing threatened plants on, and would like to hear from anybody who would like to discuss his offer. Brian asked if there was a system in place to harness his and similar offers from people with land. Nobody knew of a current system, and anyone interested in such an idea should contact Brian.

A contact list of all members in the Victorian region was requested by those present and it was decided to send the list to everyone in the region.

SE NSW and ACT Region

The third regional meeting was held at Braidwood Golf Club and was hosted by the NSW National Parks and Wildlife Service. The meeting was well attended by 27 members and other invited from the local and shire councils.

At the previous meeting held in Bunendore, it was agreed that local government is potentially an important player in plant conservation in the region and so Rob Thorman from the Australian Local Government Association was invited to speak to the group.

Before Rob Thorman's contribution, Stuart McMahon, the regional co-ordinator for the Farming for the Future Program gave a presentation on his work. The programs run by the NSW National Parks and Wildlife Service and is primarily concerned with the conservation of remnant vegetation on private land. Stuart discussed the ways in which farmers are being encouraged to retain remnant vegetation, the attitudes of property owners and his way of influencing their thinking. Stuart was asked how he felt members of ANPC regional groups could be of assistance to him and to the two other regional co-ordinators in NSW (yes, that's right there are only three co-ordinators to service the entire farming community in NSW!). He said that there is a

good opportunity for us to be involved by simply increasing the number of people that can be talked to about the preservation of remnant vegetation. Further information about the Farming for the Future Program is available from: Stuart McMahon, NSW National Parks and Wildlife Service P.O. Box 1189, Queanbeyan NSW 2620 ph (06) 298 0327/ 2976144 fax (06) 2978408.

The second speaker, Rob Thorman, spoke briefly on where he felt that local government fitted into conservation before we broke into two groups for a workshop. Each person in the group was asked to list plant conservation issues that they thought are important to local government. These issues were then put under general headings and the groups were asked to vote on which of those general topics they thought were most important. Interestingly, the subjects discussed by the two groups were quite different with one group looking at the topic on a much more 'global' and conceptual level and the other being much more practical. Rob is preparing a report on the workshop and it will be included in the next issue of *Danthonia*. Local government representative provided valuable input, at times expressing concern about the apparent lack of understanding of how local government operates and two councils expressed interest in joining the ANPC. The meeting concluded with some warm food and sandwich-

es prepared by the golf club and generously sponsored by the NSW NPWS.

The next meeting will be held at the botanic gardens Canberra in early November with the ACT Parks and Conservation Service giving a talk on the recently prepared Threatened Species Legislation. Since discussing this with the ACT Government, the Friends of the Grasslands and the SE Region Conservation Council have asked if we can make it a joint function hosted by the ANPC. Networking in action. Further information will be distributed to members when the times have been finalised. It is also proposed that the meeting include planning for the coming year's program and discussion about future co-ordination.



THE AUSTRALIAN NETWORK FOR PLANT CONSERVATION

MEMBERSHIP LIST

The date (1994/5) indicates that the member has joined or renewed for that year. Addresses and names of contact persons are available from the National Office.

Corporate Members

ACT Parks & Conservation Service, (1995)
Adelaide Botanic Gardens (1995)
Australian Army (1995)
Australian Forestry Council
Australian Mining Industry Council
Australian Tree Seed Centre, CSIRO(1994)
Botanic Gardens of Adelaide, SA (1995)
Albury Botanic Gardens, NSW (1994)
Alcoa of Australia Ltd.; WA (1995)
Australian National Botanic Gardens (1995)
Aust. Nature Conservation Agency (1994)
Barcaldine Shire Council (1994)
Brisbane Botanic Gardens (1995)
Centre for Plant Biodiversity Res, ACT (1995)
CSIRO, Division of Plant Industry (1995)
Coffs Harbour City Council; NSW (1995)
Conservation & Land Management, WA (1995)
Conservation Commission of the NT (1994)
Eurobodalla Botanic Garden, NSW (1995)
Flecker Botanic Gardens; Qld (1995)
City of Frankston, Vic.(1995)
Forestry Tasmania (1995)
George Caley Botanic Garden; NSW, (1994)
Gladstone Tondoon Botanic Gardens; Qld (1995)
Kings Park and Botanic Gardens; WA (1995)
Kuringai Municipal Council, NSW (1994)
NSW-NPWS, Northern Region (1995)
Norfolk Island Botanic Garden (1994)
North Forest Products; Tas (1995)
Pacific Grid, NSW (1995)
Parks Wildlife and Heritage, Tas (1995)
Queensland Herbarium (1995)
Randwick City Council NSW (1994)
RGC Mineral Sands, WA(1995)
Royal Botanic Gardens, Melbourne, Vic

(1995)
Royal Botanic Gardens, Sydney; NSW, (1995)
Royal Tasmanian Botanical Gardens (1994)
Royal Zoological Society of SA (1995)
Standing Committee on Forestry, ACT,(1995)
Townsville City Council (1995)
Wollongong Botanic Gardens (1995)
Zoological Parks Board of NSW (1995)
Zoological Board of Victoria (1994)

International Associates

Botanic Gardens Conservation Intl, UK
Botanical Research Institute of Texas
Center for Plant Conservation, USA
Honiara Botanic Gardens, Solomon Islands
Kebun Raya Indonesia
Missouri Botanical Gardens Library
National Botanical Institute, South Africa
Rare Plant Consortium, USA
Society for Ecological Restoration, USA
Suva Botanical Gardens, Fiji
Vailima Botanic Gardens, Western Samoa

Other Organisations

Arid Land Botanic Garden, SA, (1995)
Assn. of Soc. for Growing Aust Plants (1995)
Australian Assn. of Bush Regenerators (1994)
Aust. Trust for Conservation Volunteers (1994)
Brunswick Valley Heritage Park, NSW (1995)
Burrendong Arboretum Trust; NSW (1994)
Deakin Uni., Rusden Campus Library, Vic (1994)
Earth Repair Foundation (1994)
Friends of North Coast Regional BG; NSW(1995)
Friends of the Points; Vic (1994)
Greening Australia (ACT) (1994)
Greening Australia (NSW) (1995)
Greening Australia (Vic), (1995)
Greening Western Australia (1994)
Hunter Region Botanic Gardens; NSW (1995)
Illawarra Zoological Society, NSW (1994)
Joseph Banks Native Plants Res, NSW (1994)
Macksville High School (1995)

Merungle Hill Landcare, NSW (1994)
Missouri Botanical Gardens (1995)
Myall Park Botanic Garden, Qld (1995)
National Threatened Species Network (1995)
Olive Pink Flora Reserve; NT (1995)
Pangarinda Arboretum, SA (1994)
Rainforest Seed Collective, (1995)
Royal Geographical Society of Qld (1995)
SGAP Blue Mtns Group, (1995)
SGAP - Canberra Region Inc (1994)
SGAP - Dryandra Study Group (1994)
SGAP - East Hills Group, (1995)
SGAP - Grampians Group; Vic (1994)
SGAP - Hobart District Group (1995)
SGAP - Ipswich Branch (1994)
SGAP - Maroondah Inc (1995)
SGAP - New South Wales Ltd.(1995)
SGAP - Newcastle; NSW (1995)
SGAP - North Shore; NSW (1995)
SGAP - North West; Tas (1995)
SGAP - Queensland Region (1995)
SGAP - South West Slopes; NSW, (1994)
SGAP Southside, Qld (1995)
SGAP - Tasmania Region (1994)
Stony Range Flora Reserve, NSW (1995)
Sunraysia Oasis Botanic Gardens (1994)
Tasmanian Arboretum Inc (1995)
Threatened Species Network (NT) (1994)
Threatened Species Network (QLD) (1994)
Threatened Species Network (SA) (1994)
Wildflower Society of Western Australia (1995)
Wildflower Society of WA, Nth Suburbs (1995)
Wildflower Soc. of WA - Mandurah (1995)
World Wide Fund for Nature Australia,(1994)

Individual Members

Ian Anderson, ACT (1995)
Dr David Aldous, Vic (1995)
Bee & Bill Barker, Vic (1995)
Tym Barlow, Vic (1995)
Peter Barrer, ACT (1995)
Robert Blackall, NSW, (1995)
D Blore, NSW (1995)
Dr Robert Boden, ACT (1995)
E Boesel (1995)
Dr Barbara Briggs, NSW (1995)
Dr AHD Brown, ACT (1995)
Douglas Brown, Tas (1995)
Kate Brown, WA (1994)
S Brunskill, Vic (1994)

Dulcie Buddee, NSW (1995)
 Louise Bull, NSW (1995)
 P Bundock, NSW (1994)
 R Burns; Tas (1995)
 Dr G Burrows, NSW (1994)
 Geoff Butler NSW (1995)
 Geoff Carr, Vic, (1995)
 Calder Chaffey, NSW, (1995)
 Irene Champion, Qld (1995)
 John Clark, ACT (1994)
 Anne Coates; WA (1995)
 Anne Cochrane, WA (1995)
 N & J Cowie, NSW (1995)I
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 Crawford, ACT (1995)
 S Cropper, Vic (1994)
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 John Delpratt (1994)
 Susan Denham, NSW (1995)
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 L Gilfedder, Tas (1994)
 Roger Good, NSW (1994)
 Dr Janet Gorst; Tas (1995)
 Robert Gourlay, ACT (1994)
 Matthew Gray, NSW (1995)
 Joanne Green, NSW (1995)
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 Sandra Griffith, Qld, (1995)
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 Gregory Jackson, ACT (1994)
 Kerry Jones, Vic (1994)
 Alison Kelly, NSW (1994)
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 Van Klaphake, NSW, (1995)
 H Knowls, Qld, (1995)
 Jill Landsberg, ACT (1995)
 Limpinwood Gardens Nursery, NSW
 (1994)
 John Litchfield, ACT (1995)
 Vicki Long WA (1995)
 Bill McDonald; Qld (1995)
 Tien McDonald (1995)
 Alex Mackenzie NSW (1995)
 Bob Makinson ACT (1994)

David Mason; NSW (1995)
 Maria Matthes, NSW (1994)
 Stephen Mattingley, ACT (1994)
 Lyn Meredith, ACT (1995)
 Jennifer Meyer, TAS (1994)
 Geoffrey Mitchell, NSW (1995)
 Judith Moffatt, Qld (1994)
 Brian Mole, Vic (1994)
 Adrian Moorrees, Vic, (1994)
 Sharon Nash, NSW, (1994)
 Robyn Newman, NSW, (1995)
 Alexander Nicol, NSW (1995)
 Nan Nicholson, NSW (1995)
 Malcolm Noble, NSW (1994)
 Ivana Noell, Qld, (1995)
 J O'Grady, Qld (1995)
 Peter Olde, NSW (1995)
 Joan Overeem, NSW (1995)
 Matthew Oxford, SA (1995)
 Dr. Bob Parsons; Vic (1995)
 Hugh Paterson, NSW (1995)
 Joe Perner NT (1994)
 Alistair Phillips, Vic (1994)
 Plantique, NSW (1995)
 J Playford, Qld (1994)
 Tim Powe, ACT (1995)
 Brian Quinn, Vic, (1995)
 Murray Ralph, Vic, (1995)
 Brett Robinson NSW (1995)
 Esma Salkin; Vic (1995)
 Sarah Sharp (1995)
 Mel Sheppard, ACT (1994)
 Marilyn Smith, NSW, (1995)
 Howard Smith, NSW (1995)
 Diana Snape, Vic (1995)
 JH & I E Story, Qld (1995)
 Joe Swartz, NSW (1995))
 D Swift, Tas (1994)
 Jane Tarran, NSW, (1994)
 N Taws (1995)
 Roy Taylor, USA (1995)
 Technical Librarian, Qld (1995)
 Megan Thomas, Qld (1994)
 Phillip Thomas, RBG Edinburgh (1994)
 Lyn Thompson NSW (1994)
 Jan Tilden, Qld (1995)
 V Turner (1995)
 Bindi Vanzella, NSW (1995)
 T Virtue, NSW (1995)
 Darren Wallace, Vic (1994)
 Bruce Wannan, NSW (1995/6)
 Chris Ward, NSW (1994)
 Matt White, Vic (1995))
 John Wilkes, ACT (1994)
 Jann Williams, ACT (1995)
 ME Williams, Qld (1995)

J & A Willinck, NSW (1995)
 John Wrigley; NSW (1995)
 Martin Zierholtz, Germany (1995)

Donations Received from:
 Bill Gale